



**GOVERNMENT POLYTECHNIC KORAPUT
DEPARTMENT OF ELECTRICAL ENGINEERING**

TH5. ENVIRONMENTAL STUDIES

Name of the Course: Diploma in Electrical Engineering			
Name of the Faculty: S Bichiballi		W.E.F.: 01/08/2023	
Course code:	Th5	Semester:	3 rd
Total Period:	60	Examination duration:	3 hrs
Theory periods:	4P/week	Internal Assessment :	20
Maximum marks:	100	End Semester Examination:	80

VISION:

To create competent & industry ready Electrical Diploma Engineers with professional and social values to meet future challenges.

MISSION:

- To prepare diploma holders through “qualitative competency based education system” to compete with national requirement along with core values.
- To produce dynamic Electrical Engineers to serve the society and industry.
- To develop leadership qualities, communication skills, critical thinking and attitude for lifelong learning.

PROGRAM EDUCATIONAL OBJECTIVES:

PEO1	Apply technical knowledge and skills learned in the field of Electrical Engineering to excel in Professional and/or higher education.
PEO2	To provide students an excellent academic environment and make them aware the needs of Society and Industry to become a successful Professional/Entrepreneur.
PEO3	To engage in lifelong learning, career enhancement to adopt emerging technologies

COURSE OUTCOMES:

CO1	Define and explain in brief about environment, ecosystem, and biodiversity.
CO2	Visualize the need for sustainable use of natural resources.
CO3	Examine environmental pollutions; take remedial & precautionary steps through public awareness.
CO4	Correlate environmental problems with population growth and lack of education.

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TOPIC WISE DISTRIBUTION OF PERIODS

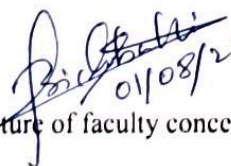
Sl. No.	Topics	Periods
1	The Multidisciplinary nature of environmental studies	04
2	Natural Resources	10
3	Systems	08
4	Biodiversity and it's Conservation	08
5	Environmental Pollution	12
6	Social issues and the Environment	10
7	Human population and the environment	08
	Total:	60

LESSON PLAN

Week	Day	Theory topic
1 st	1 st	The Multidisciplinary nature of environmental studies: Definition, scope.
	2 nd	Importance.
	3 rd	Need for public awareness.
	4 th	Need for public awareness.
2 nd	1 st	Natural Resources: Renewable and non renewable resources
	2 nd	Natural resources and associated problems.
	3 rd	Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people.
	4 th	Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems.
3 rd	1 st	Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources.
	2 nd	Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity,.
	3 rd	Energy Resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources, case studies.
	4 th	Land Resources: Land resource, land degradation, man induces landslides, soil erosion, and desertification.
4 th	1 st	Role of individual in conservation of natural resources. Equitable use of resources for sustainable life styles.
	2 nd	Previous year question discussion
	3 rd	Systems: Concept of an eco system.
	4 th	Structure and function of an eco system.
5 th	1 st	Producers, consumers, decomposers.
	2 nd	Energy flow in the eco systems.
	3 rd	Ecological succession.
	4 th	Food chains, food webs and ecological pyramids.
6 th	1 st	Introduction, types, characteristic features, structure and function of the following eco system: Forest ecosystem

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	2 nd	Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries).
	3 rd	Biodiversity and it's Conservation: Introduction
	4 th	Definition of genus, species and ecosystem diversity.
	7 th	Biogeographically classification of India.
	1 st	Value of biodiversity: consumptive use, productive use, socioethical, aesthetic and optimal values.
	2 nd	Biodiversity at global, national and local level.
	3 rd	Threats to biodiversity: Habitats loss, poaching of wild life, manwildlife conflicts.
	4 th	Previous year question discussion
	1 st	Previous year question discussion
	2 nd	Environmental Pollution: Definition Causes, effects and control measures of: Air pollution.
	3 rd	Water pollution.
	4 th	Soil pollution.
	1 st	Marine pollution.
	2 nd	Noise pollution.
	3 rd	Thermal pollution.
	4 th	Nuclear hazards.
	1 st	Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
	2 nd	Role of an individual in prevention of pollution.
	3 rd	Disaster management: Floods, earth quake
	4 th	Cyclone and landslides.
	1 st	Previous year question discussion
	2 nd	Social issues and the Environment: From unsustainable to sustainable development.
	3 rd	Urban problems related to energy.
	4 th	Water conservation, rain water harvesting, water shed management.
	1 st	Resettlement and rehabilitation of people; its problems and concern.
	2 nd	Environmental ethies: issue and possible solutions.
	3 rd	Climate change, global warming, acid rain.
	4 th	Ozone layer depletion, nuclear accidents and holocaust, case studies.
	1 st	Air (prevention and control of pollution) Act.
	2 nd	Water (prevention and control of pollution) Act.
	3 rd	Public awareness.
	4 th	Human population and the environment: Population growth and variation among nations.
	1 st	Population explosion- family welfare program.
	2 nd	Environment and human health.
	3 rd	Human rights.
	4 th	Value education
	1 st	Previous year question discussion
	2 nd	Previous year question discussion
	3 rd	Previous year question discussion
	4 th	Previous year question discussion


Signature of faculty concerned

H.O.D. Electrical